

# Upper Thomas Creek Restoration Project; Fremont-Winema National Forest Programmatic Decision

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for the greatest good

The Lakeview Ranger District of the Fremont-Winema National Forest (NF) is proposing to implement the Upper Thomas Creek Restoration Project. This project is being proposed under the 2012, Fremont-Winema National Forest Programmatic Restoration Project Decision Notice (Programmatic DN).

### **Project Name:**

Upper Thomas Creek Restoration

### **Project Location:**

County: Lake County; Stream Name: Thomas Creek; 6<sup>th</sup> field HUC: 180200010205

### **GPS Degrees Decimal Minutes:**

- 120° 37' 10.111" W; 42° 21' 8.916" N (Begin mainstem Thomas Creek above Cox Flat restoration)
- 120° 38' 32.944" W; 42° 20' 10.512" N (End mainstem Thomas Creek above Cox Flat restoration)
- 120° 34' 12.887" W; 42° 20' 49.43" N (Begin Thomas Creek Tributary restoration)
- 120° 33' 24.454" W; 42° 20' 55.351" N (End Thomas Creek Tributary restoration)

**Legal:** T37, R18E

See attachment 1 on page 6 for a map of the exact project location.

### **Timing:**

The project will be implemented during the Oregon Department of Fish and Game in-water work window for stream restoration which is between July 15 – September 30.

### **Need for Proposal**

The need of the Upper Thomas Creek Restoration Project is to improve fish habitat and passage for federally endangered Modoc suckers and Forest Service Sensitive redband trout. The objectives of this project are: (1) Reconstruct the channel to provide year-round fish passage up and downstream, (2) Improve fish habitat and (3) Restore stream to floodplain connectivity for proper hydrologic function.

### **Collaborative Process**

The proposed project is the joint effort of USFS and the local watershed council, Lake County Umbrella Watershed Council (LCUWC) and is supported by the 2012 assessment conducted by the River Design Group (RDG) which identified priority restoration efforts to be conducted in Thomas Creek. The RDG assessment covered both private and public lands in the Upper Thomas Creek subwatershed to allow the USFS, LCUWC and the private landowner to combine restoration efforts. The project will also be in collaboration on the development, permitting and implementation with the livestock permittees, Oregon Department of State Lands (DSL), Oregon Department of Fish and Wildlife (ODFW), Army Corps of Engineers (ACOE) and the USFWS. These groups have been working together to help solve fish habitat and passage issues in Thomas Creek for some time as this is the third phase of fish passage and habitat projects.

## Project Description

Upper Thomas Creek is a priority subwatershed and has a completed Watershed Restoration Action Plan (WRAP) that identifies this proposed work as an essential project. The proposed project is a continuation of current activities in the Upper Thomas Creek subwatershed. There are two sites: 1) Unnamed Tributary to Thomas Creek 2) Thomas Creek along Road 2800-100 and three primary restoration components to this project: 1) Fish passage, 2) Channel restoration (habitat improvement) and 3) Restore stream to floodplain connectivity for proper hydrologic function.

### Site 1. Unnamed tributary to Thomas Creek:

A series of headcuts and rock grade control structures continue to prevent fish passage due to jump height and potentially velocity barriers. Rock grade control structures originally built to promote pool habitat over time have become less effective and need maintenance (Figure 1). Headcut issues are a result of downstream channelization, beaver dam failure and flood events (Figure 2). Overtime headcut progression will result in channel bed lowering, channel widening, sediment delivery, vegetation conversion, and degraded habitat. Headcuts will be stabilized by raising streambed elevation with the addition of wood, rock, and soil; and reshaping the stream channel and floodplain to match natural conditions upstream and downstream of the headcut, allowing the stream channel access to the floodplain. See Figure 1 for a diagram of the restoration methodology. To help trap sediment, instream structures will be constructed with mostly trees that were felled to maintain Road 2800-027 in 2014. Wood may also come from trees that are in the way of machinery accessing the stream work site and trees that are safety concerns. All trees will be felled using chainsaws. Up to 20 trees 18" dbh or less (unless a larger tree is deemed a safety concern), will be felled for access to the site and slash material will be scattered on the floodplain to increase ground cover and reduce velocity of flood water. A tracked excavator will be used to place logs and fill material into the stream channel. Once trees are placed into the stream, soil and rock fill will be placed within the stream channel up to floodplain elevation. Most of the fill will come from a rock pit that is approximately 5 miles from the site. Fill may also be collected from closed forest roads approximately 0.5 miles from the site (2800-147, 150, 161, and 232). Fill from closed roads will be collected by scraping the first 6-18" of material within the existing road prism across approximately 1000' by graders. Erosion control devices (e.g. waterbars and silt fences) will be used as necessary to prevent erosion. Willows and other native vegetation will be planted at the stream restoration site once construction is complete.

### Site 2. Thomas Creek along Road 2800-100:

Log drop structures will be modified, replacing the structure with a log weir to promote fish passage and the formation of low flow channels (Figure 3). In conjunction with log drop structure repairs, two stream crossings will be decommissioned on Forest Road 2800-198. Two rock structures will be reconfigured to provide aquatic passage and the road fill will be removed for the stream to access its floodplain. A tracked excavator will be used to modify log structures and decommission the road. Riparian areas and streambanks disturbed during the project implementation will be planted with willows and other native vegetation.

Water from Thomas Creek and the Unnamed Tributary to Thomas Creek will be diverted during all instream work, and fish will be removed and transported downstream or upstream of the project area until the completion of the project. Implementation of these projects will restore hydrologic function

across a 22 acre meadow by raising the groundwater table and restoring stream-floodplain connectivity and fish passage to over 2.5 miles of stream.

*Figure 1. Rock grade control structure that will be modified to provide fish passage.*



*Figure 2. Headcut that will be stabilized.*





**Figure 3. Log drop structure that will be modified to provide fish passage.**



### **Expected Outcome:**

The proposed restoration activities will improve fish passage over the full range of expected flows, serve as long-term stable grade control structures, and reconnect the stream with adjacent floodplains on Thomas Creek mainstem channel and tributary. It will also promote fish passage and provide habitat complexity needed for endangered Modoc sucker.

### **ESA and Sensitive Species or Species Habitat Affected:**

There is a Federally Endangered listed Species Modoc sucker (*Catostomus microps*) and a Sensitive Species redband trout (*Oncorhynchus mykiss*) within the project area.

### **How this project fits within restoration activities identified in the Programmatic DN**

- Activity 1: Installation of instream structures using large wood and boulders and gravel placement for fish habitat/passage
- Activity 2: Restoration to establish natural hydrologic functions in riparian/wetland habitats
- Activity 14: Planting Native Vegetation
- Activity 22: Removal and use of large trees in instream and riparian restoration actions.

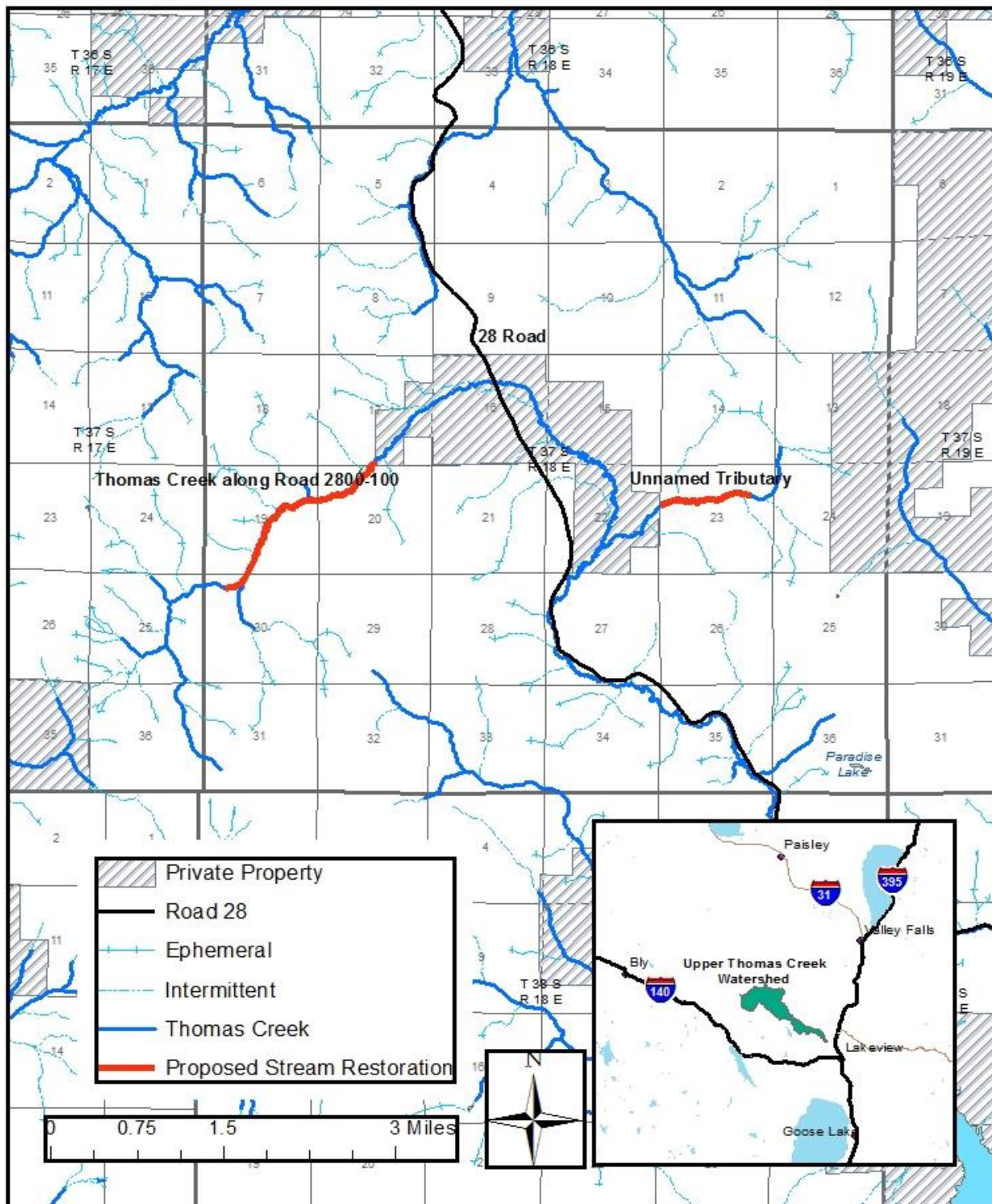
### **Monitoring Plan and Results:**

Monitoring may include different techniques such as, but not limited to photo point monitoring, stream cross sections, fish habitat surveys and etc. Monitoring will be conducted by Forest Service staff over the next 5 years.

### **Contact- Project Proponent:**

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## Upper Thomas Creek Restoration Project



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